LLS TAP

THERAPY ACCELERATION PROGRAM

LORE GRUENBAUM, VP, TAP
JAVEED FROOZAN, VP, BD & SA

February 2023

LEUKEMIA & LYMPHOMA SOCIETY®

LLS MISSION AND PURPOSE

The mission of The Leukemia & Lymphoma Society (LLS) is to cure leukemia, lymphoma, Hodgkin's disease and myeloma, and improve the quality of life of patients and their families.

We fund **RESEARCH** to advance lifesaving treatments.

We provide patients, survivors, caregivers, families and healthcare professionals with hope, guidance, **EDUCATION** and **SUPPORT**.

We drive **ADVOCACY** for policies that protect patient access to lifesaving treatment.

Approximately every **3 minutes** someone in the U.S. is diagnosed with blood cancer

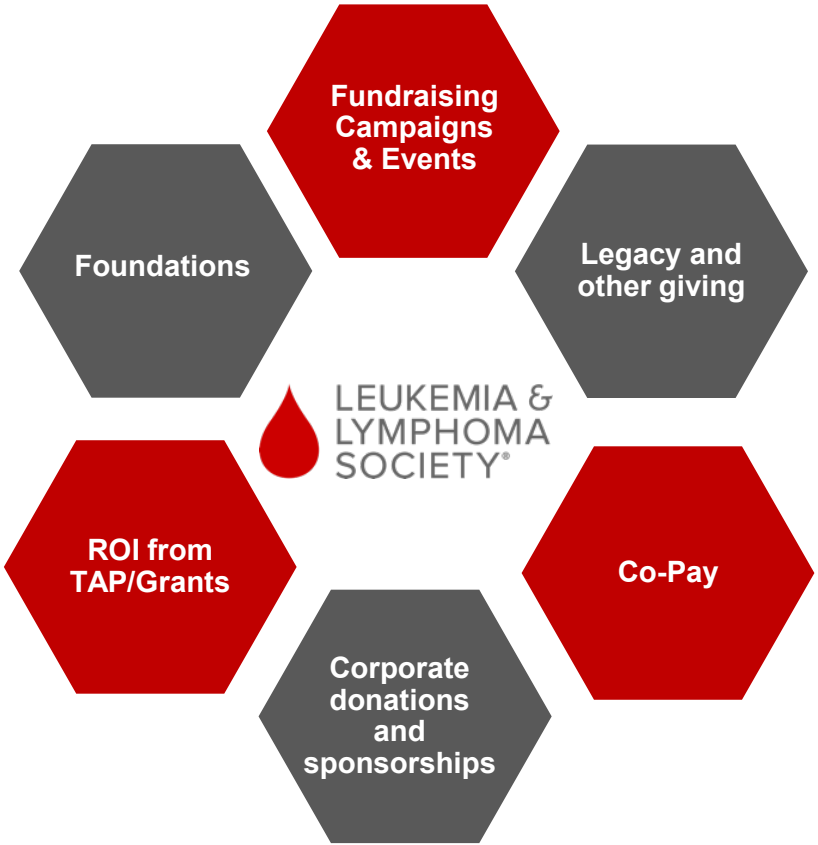
Nearly **1.4 million** people in the U.S. are living with or in remission from leukemia, lymphoma or myeloma

About **30 percent** of blood cancer patients still do not survive five years after diagnosis

About **40 percent** of all pediatric cancers are blood cancers

LEUKEMIA & LYMPHOMA SOCIETY®

LLS MISSION INVESTMENT IS SUPPORTED BY MULTIPLE REVENUE SOURCES



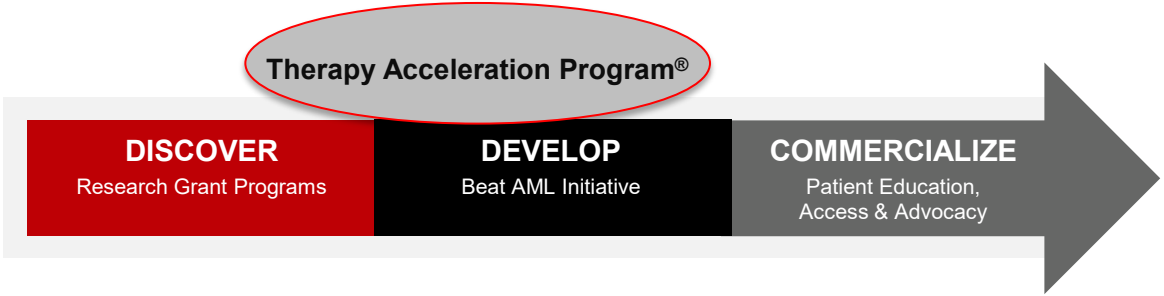
OUR IMPACT

- Invested nearly $1.6 billion in research and development worldwide since founded in 1949
- Helped advance more than 70% of FDA approved blood cancer treatments since 2017
- Supported >93,000 patients since inception
- Responded to 20,000 inquiries in 2019

LEUKEMIA & LYMPHOMA SOCIETY®

LLS GLOBAL RESEARCH AND DEVELOPMENT FOCUS

Research and development programs and clinical trials using LLS resources



Academic Grants

~$50 Million/yr over past 20 years at over 80 institutions with >4,000 projects total

PedAL

Global precision medicine trial focused on pediatric relapsed leukemia

Therapy Acceleration Program®

~$10 Million/yr venture philanthropy initiative funding >70 portfolio projects since 2007

Beat AML® Master Clinical Trial

LLS Sponsored precision medicine trial

LEUKEMIA & LYMPHOMA SOCIETY®

LLS THERAPY ACCELERATION PROGRAM (TAP)

Venture philanthropy funding to support novel therapies

Established in 2007

Goals:

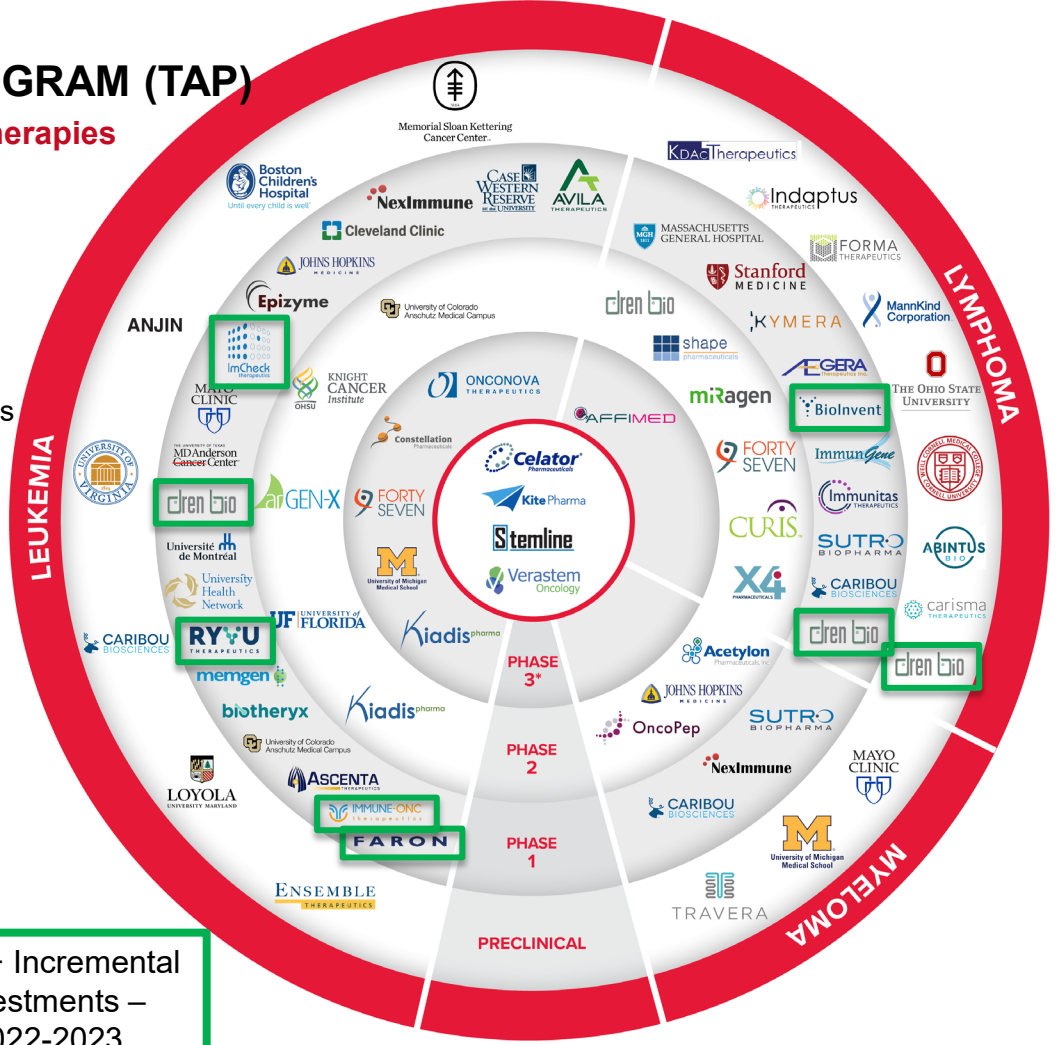
- Support LLS Mission to cure blood cancers
- FDA Approvals
- Assets in clinical development
- Strategic transactions & financing for portfolio companies
- Financial ROI to LLS

>$140 Million invested to date

- Biotech: >$105 Million
- Institutions: ~$35 Million
- >70 financings of companies and assets
- >20 assets currently in active development

4 Approved Therapies to Benefit Patients

- Vyxeos (AML) - FDA
- Yescarta (DLBCL, tFL, PMBCL) - FDA
- Elzonris (BPDCN) - FDA
- Copiktra (PTCL) - NCCN



New + Incremental Investments – 2022-2023

*Includes Phase 2 registration-enabling studies

http://www.lls.org/tap

LLS TAP SCIENTIFIC & BUSINESS LEADERSHIP

Lore Gruenbaum, PhD
VP, TAP

- 20 years drug discovery & clinical development
- VP, Gotham Therapeutics; Exec Dir, Applied Biomath
- Biomarker Head, Virology, Roche; Group Leader, BI
- Yale postdoctoral work, principal investigator and collaborator on several SBIR grants

Lee Greenberger, PhD
SVP, Chief Scientific Officer

- 20 years big pharma and biotech
- Overight responsibility for >$50 M annual research budget
- Advanced > 10 oncology therapeutics into the clinic
- Search & due diligence experience with big pharma

Javeed Froozan, MBA, BS
VP, Business Development

- 25 years biopharma and health technology value creation
- Sr. Dir, Emergent BioSolutions, Multiple start-ups/exits, 2 IPOs
- Business lead on EBS-Trubion M&A transaction. Alliance Manager for Pfizer relationship
- Strategic Investments, M&A, Business Development, Asset Management, and Economic Development

Blaine Robinson, PhD
Executive Director, TAP

- 15 years research & clinical development in blood cancer
- Search & Diligence on 100+ projects
- Scientific lead for over 20 TAP projects including Constellation, Kymera, Ryvu & most recently Caribou, Immune-Onc, Immunitas, Dren & BioInvent
- Pediatric leukemia researcher, Children's Hospital of Philadelphia

Jun Xu, PhD
Executive Director – TAP Lead

- 20 years oncology/ immunology drug discovery/development
- Search & Diligence on 100+ projects
- Scientific lead for over 20 TAP projects including multiple high impact ones, such as Stemline, Kite, argenX, Forty Seven & most recently Carisma, Faron & ImCheck

Therapy Acceleration Program Committee and Advisors: https://www.lls.org/therapy-acceleration-program/oversight

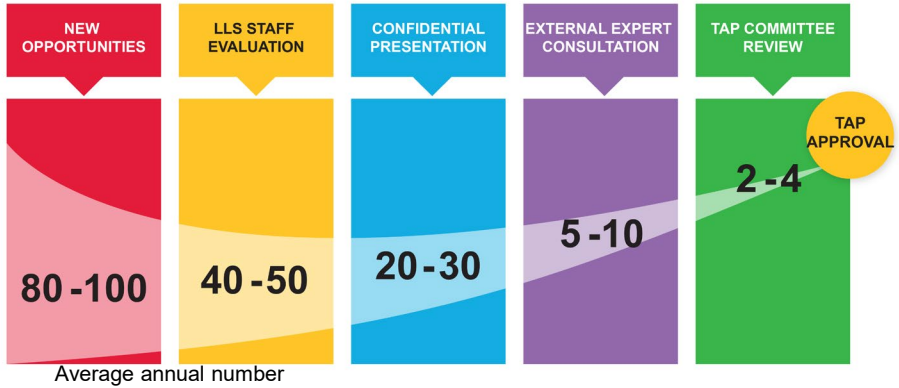
LEUKEMIA & LYMPHOMA SOCIETY®

TAP GOALS & INVESTMENT STRATEGY

Accelerate innovative blood cancer therapies and generate ROI for LLS mission

Focus on high-value assets:

- Existing and emerging populations with high unmet needs
- Gaps in current and emerging treatment landscape
- Innovative science, first-in-class assets
- First-in-heme/onc and registration trials
- Strong intellectual property, management, and finances



LEUKEMIA & LYMPHOMA SOCIETY®

TAP BIOTECH ACCELERATION MODEL

2 PATHS TO CO-INVEST WITH INVESTORS AND VENTURE PHILANTHROPIES

Strategic

- Range of Investment: $2 Million to $10 Million
- Presentation to TAP Committee
- Typically, 3-6 months to reach TAP Committee

Opportunistic

- Target Investment: $500,000
- LLS TAP team briefs TAP Committee Chair
- Transaction completion in 1-3 months

TAP ACTIVELY COLLABORATES WITH PARTNER COMPANIES

Investment Side Letter & Research Advisory Committee

Key features of LLS TAP Investment Side Letter

- Cites LLS Mission focus and company's focus and assets in blood cancer
- Investment amount on same terms and conditions as other investors, and use of proceeds (less detail for public companies)
- Exclusion of fees on LLS proceeds to investment banks and other intermediaries (via waiver, decreased total load, or refund to company)
- Information & observer rights (private firms)
- Research Advisory Committee (RAC) structure for recurring meetings between TAP team and company to discuss corporate and program progress – Company retains control of program
- Company participation in LLS events, publication review, and evaluate providing research materials to PI's.

Side letter captures the mission-driven collaborative nature of the relationship between LLS TAP and the partner companies

TAP VALUE ADD TO BIOTECH COMPANIES

TAP-funded companies benefit from LLS blood cancer insight

- Deep knowledge of indications and rapidly changing SoC
- Unique scientific, clinical, and drug development expertise
- Patient access services to enable understanding of patient needs
- Immediate access to extensive KOL network
- Pharmaceutical, biotech, and research institution partner connections
- Regulatory insight through LLS initiatives (Beat AML Master Clinical Trial®)

TAP record of success provides scientific & investment credibility, and visibility enabling companies to raise additional funds.

LEUKEMIA & LYMPHOMA SOCIETY®

TAP PORTFOLIO ASSETS IN DEVELOPMENT

Therapy	Target/Modality	Indications	Preclinical	Phase 1	Phase 1 Expand/ Phase 2	Phase 2 Reg/ Phase 3	Regulatory Designations
Magrolimab + Azacitidine	CD47 antibody	MDS				FortySeven[1]	Orphan, Fast Track, Breakthrough
Pelabresib + Ruxolitinib	BET small molecule	MPN				Constellation[2]	Orphan, Fast Track
Ziftomenib	Menin small molecule	NPM1 mutant AML				KURA ONCOLOGY[3]	Orphan
AFM13 + NK-cells	CD30/CD16A bispecific engager	CD30+ lymphoma			AFFIMED		Orphan
IO-202 + Azacitidine	LILRB4 antibody	AML/CMML		IMMUNE-ONC therapeutics			Orphan, Fast Track
STRO-001	CD74 antibody drug conjugate	NHL/MM		SUTRO BIOPHARMA			Orphan
ICT01	BTN3A antibody	heme malignancies		ImCheck therapeutics			
RVU120	CDK8/19 small molecule	AML/MDS		RYVU THERAPEUTICS			Orphan
BI-1206 + Rituximab	FcγRIIB antibody	NHL		BioInvent			Orphan
BI-1808 +/- Pembrolizumab	TNFR2 antibody	CTCL		BioInvent			
PVX-410 + ACY-241 +/- Len	XBP1/CD138/CS1 vaccine	Smoldering myeloma		OncoPep			Orphan
BTX-1188	GSPT1 + IKZF1/3 degrader	AML/NHL		biotheryx			
KT-333	STAT3 degrader	PTCL/CTCL/LGLL		KYMERA			Orphan
KT-413	IRAKIMiD degrader	MYD88 mutant DLBCL		KYMERA			
Bexmarilimab + Azacitidine	Clever-1 antibody	AML/MDS		FARON			
DR-01	CD94 antibody	LGLL & cytotoxic lymphomas		dren bio			
IMT-009	CD161 antibody	NHL		Immunitas THERAPEUTICS			
CB-010	CD19/PD1 KO allogeneic CAR	NHL		CARIBOU BIOSCIENCES			Orphan, Fast Track, Breakthrough
CB-011	BCMA armored allogeneic CAR	MM		CARIBOU BIOSCIENCES			
CB-012	CLL-1 armored allogeneic CAR	AML	CARIBOU BIOSCIENCES				
TBD	*in vivo* CAR-X	TBD	ABINTUS				
TBD	CAR macrophage	TBD	carisma THERAPEUTICS				

Updated February 2023

1: Acquired by Gilead ◆ 2: Acquired by Morphosys ◆ 3: Licensed from University of Michigan

Orphan Drug ◆ Fast Track ◆ Breakthrough Therapy or Regenerative Medicine Advanced Therapy (RMAT)

TAP FUNDED ASSETS CREATE VALUE

TAP portfolio partners have had successful M&A, collaboration and licensing transactions

Transactions

>$20 Billion

LEUKEMIA & LYMPHOMA SOCIETY®

TAP PORTFOLIO COMPANY WITH ASSETS IN ACTIVE BLOOD CANCER DEVELOPMENT

SIGNIFICANT EQUITY FINANCING RAISED CONCURRENT WITH OR POST- LLS TAP FUNDING

Equity since TAP Funding*	TAP Portfolio Company
>$500 Million	Constellation/Morphosys[1] Kura Kymera
$250-$500 Million	Affimed[2] Caribou Carisma Forty Seven/Gilead[3] Sutro[2]
$100-$250 Million	BioTheryx ImCheck Immune-Onc Ryvu[4]
$50-$100 Million	Dren Immunitas
<$50 Million	Abintus BioInvent Faron OncoPep

Table incudes assets without a regulatory approval. *Updated as of February 1, 2023
1: LLS asset funding (07/2021 M&A by MorphoSys)
2: LLS asset funding
3: LLS equity participation plus asset funding (05/2020 M&A by Gilead)
4: LLS equity participation plus asset funding

KEY POINTS

LLS TAP has established record of success

- Targeting unmet medical needs
- Leading to FDA approvals of life changing therapeutics
- Creating value for patients, companies and ROI for the LLS mission

LLS would like to expand the reach & impact of the TAP program

- Leverage its unique expertise in novel collaborations
- Attract more companies and investors to blood cancer indications
- Expand TAP capacity to support the most promising assets

For more information, contact:

Lore Gruenbaum, PhD 914.821.8361 | Lore.Gruenbaum@LLS.org
Javeed Froozan, MBA 914.821.8817 | Javeed.Froozan@LLS.org

LEUKEMIA & LYMPHOMA SOCIETY®

TAP
SUCCESS STORIES

LEUKEMIA & LYMPHOMA SOCIETY®

TAP SUCCESS: NOVEL LIPOSOMAL CYTOTOXIC THERAPY

***Vyxeos*® is the first FDA-approved treatment for two types of poor-prognosis AML (2017)**

Celator® Pharmaceuticals
a Jazz Pharmaceuticals™ company

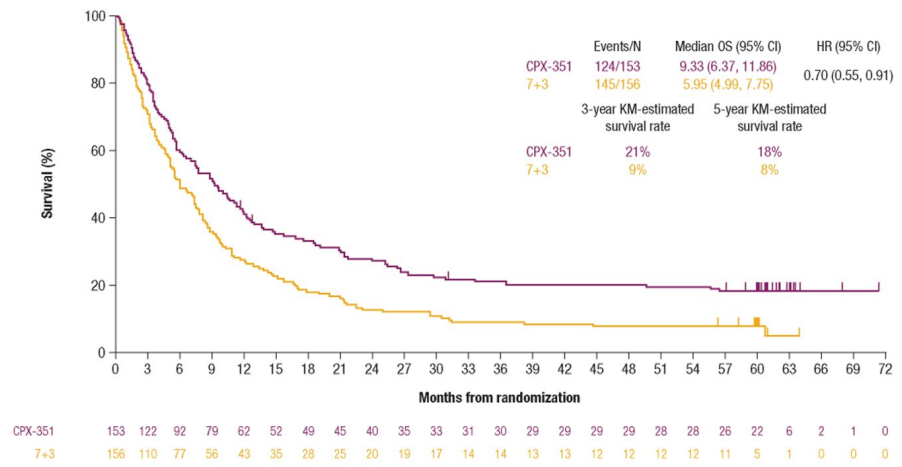
ACQUIRED BY JAZZ PHARMA FOR $1.5 BILLION IN 2016

LLS TAP PROVIDED:

$9.15 MILLION ASSET FUNDING

ROI: $25.3 MILLION

Vyxeos®
(daunorubicin and cytarabine)
liposome for injection



Five-year final results of a phase 3 study of CPX-351 versus 7+3 in older adults with newly diagnosed high-risk/secondary AML

J. Lancet et al., ASCO 2020

LEUKEMIA & LYMPHOMA SOCIETY®

TAP SUCCESS: CD19 CHIMERIC ANTIGEN RECEPTOR (CAR) T-CELL THERAPY

***Yescarta*® is the first FDA-approved CAR-T Therapy in NHL (2017)**

LLS has invested > $100 M in Cellular Immunotherapy since 1998

Kite
A GILEAD Company

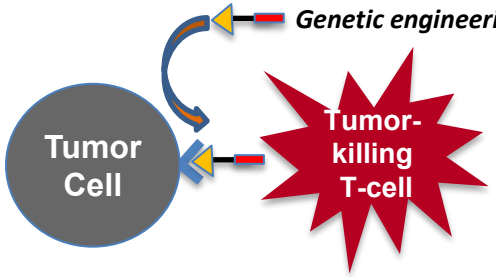
ACQUIRED BY GILEAD FOR $11.9 BILLION IN 2017

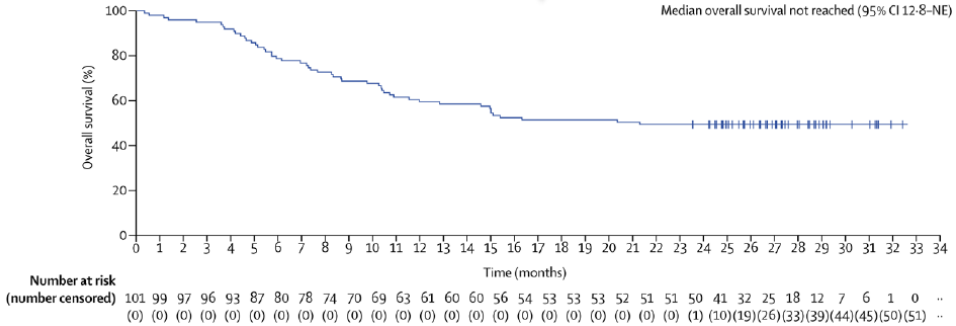
LLS TAP PROVIDED:

$2.5 MILLION ASSET FUNDING

ROI: $6.25 MILLION

YESCARTA® (axicabtagene ciloleucel) Suspension for IV infusion





Long-term safety and activity of axicabtagene ciloleucel in refractory large B-cell lymphoma (ZUMA-1): a single-arm, multicenter, Ph 1-2 trial

Locke et al. 2019. Lancet Oncology

LEUKEMIA & LYMPHOMA SOCIETY®

TAP SUCCESS: NOVEL TARGETED CD123 FUSION PROTEIN

***Elzonris*® is the first approved therapy for rare blood cancer indication BPDCN (2018)**

Stemline acquired by MENARINI group

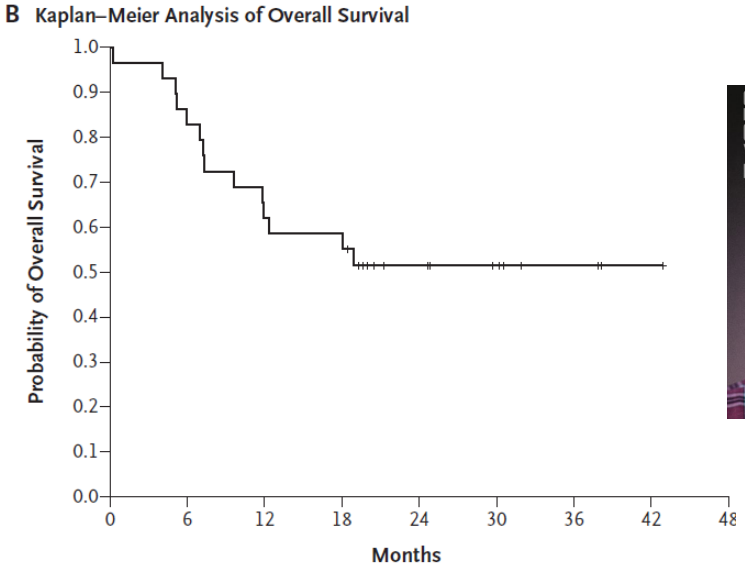
ACQUIRED BY MENARINI GROUP FOR $677 MILLION IN 2020

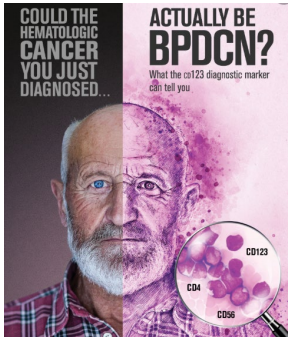
LLS TAP PROVIDED:

$2.9 MILLION NET ASSET FUNDING

ROI: $7.25 MILLION TO DATE

ELZONRIS® (tagraxofusp-erzs) Injection





Treatment outcomes of 29 patients with blastic plasmacytoid dendritic cell neoplasm (BPDCN) who received first-line treatment with tagraxofusp: Probability of overall survival

Pemmaraju et al., 2019. NEM

LEUKEMIA & LYMPHOMA SOCIETY®

TAP SUCCESS: DUVELISIB (DUAL PI3K INHIBITOR)

***Copiktra*® is the first dual PI3K inhibitor included in NCCN Guidelines for all subtypes of PTCL (2021)**

VERASTEM ONCOLOGY

duvelisib acquired by SECURA BIO™

Copiktra® (duvelisib) 15mg | 25mg capsules

LICENSED TO SECURA BIO FOR UP TO $311 MILLION IN 2020

LLS TAP PROVIDED:

$1.485 MILLION ASSET FUNDING

ROI: TBD

Table 1. Preliminary Outcomes by Prior Regimens and Prior Anticancer Therapy

OUTCOME	PRIMO-EP (N=101)
ORR by IRC, n (%) [95% CI]	49 (48.5) [38.8–58.3]
CR by IRC, n (%) [95% CI]	34 (33.7) [24.4–42.9]
Response (CR + PR) by number of prior regimens, %	
1 prior regimen (n=26)	34.6
2 prior regimens (n=22)	63.6
3+ prior regimens (n=53)	49.1
BOR by prior therapy, (% of subgroup): CR / PR / SD	
Prior CHOP/R-CHOP	37.8 / 5.4 / 2.7
Prior CHOEP/EPOCH	27.0 / 27.0 / 0
Prior Salvage Chemotherapy CHOP/R-CHOP or CHOEP/EPOCH	44.7 / 7.9 / 0
Prior BV or BV-chemo	32.4 / 10.8 / 0
Prior SCT	22.7 / 27.3 / 0

BV-chemo, brentuximab vedotin + cyclophosphamide + doxorubicin + prednisone; CHOEP, cyclophosphamide + doxorubicin + vincristine + etoposide + prednisone; CHOP, cyclophosphamide + doxorubicin + vincristine + prednisone; EPOCH, etoposide + prednisone + vincristine + cyclophosphamide + doxorubicin; R-CHOP, rituximab + CHOP.

Jacobsen et al., ASH 2022

- "Patients with r/r PTCL usually relapse quickly and have limited treatment options, and the data from the PRIMO trial show very promising activity and even a remarkable number of complete responses. Importantly, these responses are better than current standard of care options" said Dr. Brammer.

LEUKEMIA & LYMPHOMA SOCIETY®

TAP SUCCESS: MAGROLIMAB (ANTI-CD47 ANTIBODY)

Magrolimab + Azacitidine induces high response rates in MDS and AML

Initiation of registration-enabling study in 2020

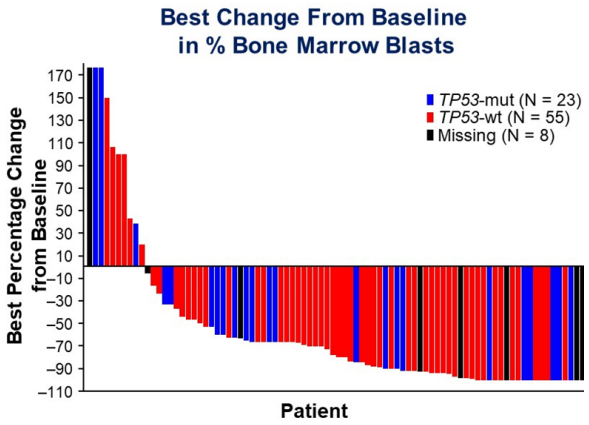
Forty Seven
acquired by GILEAD

ACQUIRED BY GILEAD FOR $4.9 BILLION IN 2020

LLS TAP PROVIDED:

$4.175 MILLION ASSET FUNDING
$3 MILLION EQUITY INVESTMENT

ROI: >$40 MILLION



Outcome	All N=95*	*TP53*-wt MDS N=61	*TP53*-mut MDS N=25
Objective response rate, %†	75	79	68
CR, % (95% CI)	33 (23, 43)	31 (20, 44)	40 (21, 61)
Marrow CR, %	32	38	20
SD w/HI, %	11	10	8
DCR, median (95% CI) mos	11.1 (7.6, 13.4)	12.9 (8.0, NR)	7.6 (3.1, 13.4)
Marrow CR with HI/Any HI, %	17/59	20/61	12/56
Converted to RBC transfusion independence, %	14	10	24
PFS, median (95% CI) mos	11.6 (9.0, 14.0)	11.8 (8.8, 16.6)	11.0 (6.3, 12.8)
OS, median (95% CI) mos	NR (16.3, NR)	NR (21.3, NR)	16.3 (10.8, NR)

*9 pts included in all pts had missing TP53 status. †Defined as CR+ PR + marrow CR + SD w/HI. HI, hematologic improvement; NR, not reached; SD, stable disease.

Sallman et al., ASCO 2022

- Magrolimab + Azacitidine was well tolerated with promising efficacy in patients with untreated HR-MDS including those with *TP53*-mut and *TP53*-wt disease.
- Phase 3 trial of magrolimab/placebo+azacitidine (ENHANCE: NCT04313881) has competed enrollment. Next update is expected in 2H 2023.

LEUKEMIA & LYMPHOMA SOCIETY®

TAP SUCCESS: PELABRESIB (BET INHIBITOR)

Pelabrelib + Ruxolitinib induces high spleen volume response rates in JAK-naive myelofibrosis

Initiation of registration-enabling study in 2020

Constellation PHARMACEUTICALS
A MorphoSys Company

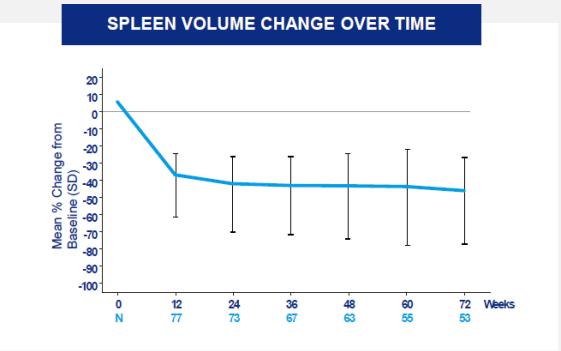
ACQUIRED BY MORPHOSYS FOR $1.7 BILLION IN 2021

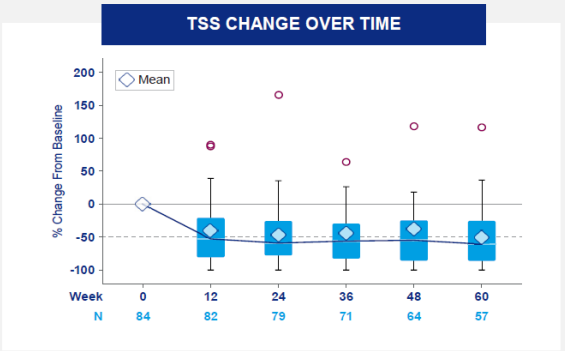
LLS TAP PROVIDED:

$7.35 MILLION ASSET FUNDING

ROI: $7.35 MILLION TO DATE

Results show deep and durable improvements in both spleen volume and symptom score beyond 24 weeks





SVR35 AT WK 24: 68% (57/84)

Mascarenhas et al., ASH 2022

TSS50 AT WK 24: 56% (46/82)

- Spleen response is also associated with improvements in bone marrow morphology and reduction in *JAK2 V617F* allele frequency.
- Phase 3 trial of pelabresib/placebo+ruxolitinib (MANIFEST-2: NCT04603495) has competed enrollment. Topline data expected in early 2024.

LEUKEMIA & LYMPHOMA SOCIETY®

TAP SUCCESS: ZIFTOMENIB (MENIN INHIBITOR)

Ziftomenib induces complete response rates in NPM1-mutant AML at optimal 600 mg daily dose

Initiation of registration-enabling study in 2023

KURA ONCOLOGY

PRECLINICAL COMPOUNDS RELATED TO KO-539 LICENSED TO KURA ONCOLOGY IN 2015

LLS TAP PROVIDED:

$6.31 MILLION ASSET FUNDING TO UNIV OF MICHIGAN

ROI: EQUITY: 26,000+ SHARES + $26,000+ CASH TO DATE

Best Overall Response	200 mg	600 mg
NPM1-m Phase 1a + 1b	**(n=6)**	**(n=20)**
CR	**1 (16.7)**	**6 (30.0)**
CR/CRh	1 (16.7)	6 (30.0)
CRc	1 (16.7)	7 (35.0)
MRD negativity	1 (100.0)	3 (42.9)[1]
ORR	2 (33.3)	8 (40.0)
KMT2A-r Phase 1a + 1b	**(n=14)**	**(n=18)**
CR/CRh	0	1 (5.6)
CRc	0	2 (11.1)
MRD negativity	0	2 (100.0)
ORR	0	3 (16.7)

- 2 pts had concurrent *IDH1/2*
- 2 pts had both *IDH1/2* and *FLT3-ITD/TKD*

Of IDH1/2 co-mutants (7), 57% experienced a CR

Erba et al. ASH 2022

- Grants initially and then TAP supported preclinical development (including chemistry) of menin-MLL interaction inhibitors by Jolanta Grembecka at University of Michigan and licensing of assets to Kura Oncology in Dec 2014
- Phase 2 registration-directed trial for R/R AML with NPM1 mutations
  - First patients dosed in February 2023

LEUKEMIA & LYMPHOMA SOCIETY®

THERAPY ACCELERATION PROGRAM (TAP) ADVISORS

Committee

Casey Cunningham, MD (Chair) +
Santé Ventures

Francie Heller +
Arabesque Asset Management

Jim Reddoch, PhD +
Royalty Pharma

Robert Rosen, JD +
Greyhawke Capital Advisors

Stephen Ansell, MD, PhD
Mayo Clinic, Rochester

Philippe Armand, MD, PhD
Dana-Farber Cancer Institute

Asher Chanan-Khan, MD
Mayo Clinic, Jacksonville

Madhav Dhodapkar, MBBS
Emory University

Courtney DiNardo, MD
The University of Texas MD Anderson Cancer Center

Giulio Draetta, MD, PhD
The University of Texas MD Anderson Cancer Center

Ian Flinn, MD, PhD
Sarah Cannon Research Institute

Christopher Flowers, MD +
The University of Texas MD Anderson Cancer Center

Patrick Fortune, PhD, MBA
Partners Heathcare Systems

Advisory Council

Helen Heslop, MD
Baylor College of Medicine

Steven Horwitz, MD
Memorial Sloan Kettering Cancer Center

Tapan Kadia, MD
The University of Texas MD Anderson Cancer Center

Laura Kaufman, PhD, DABT
Private Consultant

Ross Levine, MD
Memorial Sloan Kettering Cancer Center

Ronald Levy, MD
Stanford University School of Medicine

Frederick Locke, MD
Moffitt Cancer Center

Ruben Mesa, MD +
UT Health San Antonio

Vern Norviel, JD
Wilson Sonsini Goodrich & Rosati

Susan O'Brien, MD
University of California, Irvine

Daniel Pollyea, MD
University of Colorado

Steven Rosen, MD
City of Hope

Michael Savona, MD
Vanderbilt University

Aaron Schimmer, MD, PhD
Princess Margaret Cancer Center

Jeff Sharman, MD
US Oncology

Robert Spiegel, MD
Spiegel Consulting LLC

Daniel Starcyznowski, PhD
Cincinnati Children's Hospital

Keith Stewart, MD
Princess Margaret Cancer Center

Sarah Tasian, MD
Children's Hospital of Philadelphia

Amit Verma, MD
Albert Einstein College of Medicine

+ National Board Member

LEUKEMIA & LYMPHOMA SOCIETY®

THANK YOU!

LLS Research Grants and TAP

Lee Greenberger, PhD
CSO & SVP Research

Michael Yaffe, PhD
VP of Research

Erik Nelson, PhD
Exec. Dir. Research

James Kasper, MS
Exec. Dir. Research

Orsi Giricz, PhD
Sr. Dir. Res & Comms

Lore Gruenbaum, PhD
VP of TAP

Jun Xu, PhD
Exec. Dir. TAP Lead

Blaine Robinson, PhD
Exec. Dir. TAP

Javeed Froozan, MBA
VP of BD & Alliance

LEUKEMIA & LYMPHOMA SOCIETY®